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EXAMINER	
MOE, AUNG SOE	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/650,764	OHTA, TADASHI	
	Examiner	Art Unit	
	Aung S. Moe	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 May 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-48* is/are pending in the application.

4a) Of the above claim(s) *31-38* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2 & 5*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Species II, Figs. 8-18, and claims 1-30 and 39-48 in the reply filed on May 13, 2004 is acknowledged. The traversal is on the ground(s) that "two species is not an unreasonable number of Species, and would not seriously burden the Office during its examination". This is not found persuasive because the invention by the Applicant is disclosed in the specification and drawings as being embodied in multiple patentably distinct embodiments. In view of this, the mere evidence of several patentably distinct embodiments is *prima facie* evidence of examining burdens of the Examiner.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 31-38 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Species of Figs. 1-5 and 19, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on May 13, 2004.

Drawings

3. Figures (6) and (7) should be designated by a legend such as --**Prior Art**-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the

applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim 1-3, 4-5, 14-15, 19-21, 25-26, 39-41, 42-43 and 48 are rejected under 35 U.S.C. 102(e) as being anticipated by Kijima et al. (U.S. 6,661,451).

Regarding claim 1, Kijima '451 discloses a digital camera (Fig. 1), comprising: an image sensor (i.e., the sensor 12) having a plurality of two-dimensionally arranged pixels capable of selectively reading out signals from desired pixels and capable of adding signals of at least two pixels prior to getting the output from the image sensor (i.e., noted the selective reading process as shown in Figs. 6, 7, 9, 10; see col. 7, lines 25+);

a fist processor for processing outputs got from the individuals of the pixels of the image sensor to form a picture image of an object of the camera (i.e., noted the image processing circuit 26 for processing all pixels reading as discussed in col. 3, lines 25+); and

a second processor for processing the added signals of the image sensor for light metering of the object (i.e., noted the image processing circuit 26 for processing a high speed dynamic image data for an automatic exposure adjustment as discussed in col. 13, lines 60+).

Regarding claim 2, Kijima '451 discloses wherein the second processor processes the added signal obtained by adding signals (i.e., noted the pixels adding process used in the dynamic image processing for AF, AE and WB adjustment as shown in Figs. 6, 7, 9 and 10) of a less number of pixels than that of the pixels from which outputs are got to be processed by the first processor (i.e., noted that the all pixel reading process as shown in Fig. 11; noted that the added signals used in Fig. 7 used for the second processing contained less number of pixels than the all pixels output for the Still image recording as shown in Fig. 11).

Regarding claim 3, Kijima '451 discloses wherein electric charge is accumulated on the pixels of the image sensor (i.e., noted the charges accumulated by the sensor 12 of the camera as shown in Fig. 1) to generate the outputs to be got, and wherein the second processor (i.e., the AF, AE and WB processing; see col. 13, lines 60+) includes a timer for determining a time period from a start of the accumulation of charge to a time when the added signal reaches a predetermined level (i.e., as shown in Fig. 1, the elements 20, 22 and 24 functioned as a timer for determining the charge accumulation time, e.g., 1/45, 1/30, 1/10 or 1/60 second, of the image sensor reaches a predetermined level such that one frame of "n/q" lines of the added signals to calculate for AE; see col. 10, lines 45-68, col. 11, lines 40+ and col. 13, lines col. 14, lines 15+) the light metering being in accordance with the time period (i.e., noted that the AE is calculated for the time period of 1/60 second as discussed in col. 14, lines 15+).

Regarding claim 4, Kijima '451 discloses a digital camera (Fig. 1), comprising: an image sensor (i.e., the sensor 12; see Figs. 7 and 11) having a plurality of two-dimensionally arranged pixels on which electric charge is accumulated to generate signals, respectively, capable of selectively reading out the signals from desired pixels (i.e., noted the selective reading process as shown in Figs. 6, 7, 9, 10; see col. 7, lines 25+), and

a processor for light metering (i.e., Auto Exposure) including a timer for determining a time period from a start of the accumulation of charge to a time when a signal from the image sensor reaches a predetermined level (i.e., as shown in Fig. 1, the elements 20, 22 and 24 functioned as a timer for determining the charge accumulation time, e.g., 1/45, 1/30, 1/10 or 1/60 second, of the image sensor reaches a predetermined level such that one frame of "n/q" lines of the added signals to calculate for AE; see col. 10, lines 45-68, col. 11, lines 40+ and col. 13, lines col. 14, lines 15+), the light metering being on the basis of the time period (i.e., noted that the AE is calculated for the time period of 1/60 second as discussed in col. 14, lines 15+).

Regarding claim 5, Kijima '451 discloses wherein the image sensor is further capable of adding signals of at least two pixels prior to getting the output from the image sensor (i.e., noted from Fig. 7 that the at least the pixels GA and GC are added before outputting from the image sensor 12), and wherein the timer (i.e., the timing control circuits 20, 22 and 24) determines a time period from a start of the accumulation of charge to a time when the added signals reaches a predetermined level (i.e., noted that the time control circuits 20, 22 and 24 are capable of determining a predetermined time period, e.g., 1/45, 1/30, 1/10 or 1/60 second, when the added signals reaches a predetermined level such that a frame of image data; see col. 3, lines 45+, col. 8, lines 30+, col. 10, lines 45-68, and col. 14, lines 15+).

Regarding claim 14, Kijima '451 discloses further comprising a focus detector for processing the signal of the image sensor to detect the focusing condition of the camera (i.e., see col. 14, lines 15+).

Regarding claim 15, Kijima '451 discloses wherein the focus detector processes the outputs from the individuals of the pixels of the image sensor to form a digital image to be investigated in the focus direction (i.e., noted the AF process as shown in Figs. 4-10, and 12-15; col. 13, lines 5+, col. 14, lines 15+).

Regarding claim 19, Kijima '451 discloses wherein the image sensor is further capable of adding signals of at least two pixels prior to getting the outputs from the image sensor (i.e., noted the adding of at least two "n/q" pixels sensor as shown in Figs. 7 and 9-10 respectively), and wherein the focus detector processing the added signals when the light metering informs an insufficient brightness of an object in terms of the focus detection (i.e., as shown in Figs. 13-15, the added signals are used during the processing of the AF and AE, thus, it is cleared that AE calculating is capable of informing an insufficient brightness of the object in terms of the AF detection; col. 14, lines 25+ and col. 15, lines 5+).

Regarding claim 20, Kijima '451 discloses wherein the addition means the simple addition of signals from more than two pixels adjacent with each other (i.e., col. 15, lines 10-15).

Regarding claim 21, Kijima '451 discloses wherein the addition means the moving addition of signals from more than two pixels adjacent with each in which the pixels is shifted by one on every addition (i.e., Figs. 9 and 10; col. 10, lines 45+ and col. 11, lines 5+).

Regarding claim 25, Kijima '451 discloses comprising a memory for storing the signals from the image sensor to form a picture image of an object of the camera and a white balance calculator for processing the signals stored in the memory (i.e., see col. 14, lines 15+).

Regarding claim 26, Kijima '451 discloses wherein after accumulation of charge for light metering (AE), the calculation for white balance (AWB) is performed, and the output of the pixel is got from the image sensor for focus detection (i.e., col. 14, lines 35+ and col. 15, lines 5; Figs. 13-15).

Regarding claim 39, Kijima '451 discloses a digital camera (Fig. 1) comprising: an image sensor (12) having a plurality of two-dimensionally arranged pixels capable of selectively reading out signals from desired pixels and capable of adding signals of at least two-dimensionally arranged three pixel prior to getting the outputs from the image sensor (Figs. 7, 9 and 10; col. 10, lines 45+ and col. 11, lines 5+);

a processor for processing outputs got from the individuals of the pixels of the image sensor to form a picture image of an object of the camera (i.e., Figs. 7 & 9-15; col. 3, lines 20+, col. 12, lines 15+, and col. 13, lines 15+); and a white balance calculator for processing the added signals of the image sensor (i.e., col. 13, lines 55+ and col. 14, lines 15+).

Regarding claim 40, wherein the image sensor has a plurality of kinds of color pixels, and wherein the white balance calculator processes the added signals in which the signals of the same kind of pixels are added, respectively (i.e., noted the same kind of Green pixels are added for the high speed readout used for AWB processes; see col. 8, lines 5+).

Regarding claim 41, Kijima '451 discloses the added signals are formed by adding signals of all the same kind of pixels, respectively (i.e., noted the same kind of Green pixels are added for the high speed readout used for AWB processes; see col. 8, lines 5+).

Regarding claim 42, Kijima '451 discloses a digital camera comprising: an image sensor having a plurality of two-dimensionally arranged pixels capable of selectively reading out signals from desired pixels (i.e., see Figs. 7, 8, 10 and 11); a processor for processing outputs got from the pixels of the image sensor to form a picture image of an object of the camera (noted the dynamic image and still image output got from the pixels of the image sensor as shown in Figs. 13-15); and a white balance calculator which function after the process of processor (i.e., noted from Figs. 14 and 15, the AWB calculation functioned after the AF and Still Image process of the processor).

Regarding claim 43, Kijima '451 discloses wherein the processor includes a memory for storing the signals from the image sensor to keep the picture image, wherein the white balance calculator processes the signals stored in the memory (i.e., see col. 14, lines 15+).

Regarding claim 48, Kijima '451 discloses a digital camera (Fig. 1) comprising: an image sensor having a plurality of two-dimensionally arranged pixels capable of selectively reading out signals from desired pixels (i.e., Figs. 7 & 9-15; col. 3, lines 20+, col. 12, lines 15+, and col. 13, lines 15+) for the purpose of **at least two** of the processes for light metering (AE), focus detection (AF), white balance calculation (AWB) and picture image forming (i.e., Still image as shown in Figs. 13-15), and wherein one process is started in response to completion of outputting the signals for another process (i.e., noted from Figs. 13-15, it is noted that one of the

AF, AWB, AE,and Still image process is started in response to completion of outputting the signals for another processes as claimed).

6. Claim 45 is rejected under 35 U.S.C. 102(b) as being anticipated by Suga et al. (U.S. 5,363,137).

Regarding claim 45, Suga '137 discloses a digital camera (i.e., Fig. 1; col. 3, lines 20+) comprising: an image sensor (i.e., Fig. 3) having a plurality of two-dimensionally arranged pixels capable of selectively reading out signals from desired pixels (i.e., noted the selective reading of the desired pixels as shown in Fig. 10) for the purpose of **at least two of** the processes for light metering (i.e., noted the Photometry Scanning as shown in Fig. 6), focus detection (i.e. noted the AF scanning as shown in Fig. 6), white balance calculation and picture image forming (i.e., noted the Read out scanning for forming the image captured by the image sensor as shown in Fig. 6; and an output reader for getting the outputs from the pixels (i.e., noted the output read out circuits 106-108 as shown in Fig. 3) for the purpose of at least two processes (i.e., Photometry process and AF process as shown in Fig. 6) with the signals of the pixels kept without being reset between the first and second processes (i.e., noted that reset scanning is performed during the time t4-t5, thus, the signals of the pixels of the image sensor is kept without being reset between the Photometry process and the AF process; see Fig. 6).

7. Claims 45, 46 and 47 are rejected under 35 U.S.C. 102(e) as being anticipated by Hata (U.S. 2004/0061801 A1).

Regarding claim 45, Hata '801 discloses a digital camera (Fig. 1) comprising: an image sensor having a plurality of two-dimensionally arranged pixels (i.e., Fig. 4; col. 4, paragraphs 0039+) capable of selectively reading out signals from desired pixels (noted the selective reading of the desired pixels as shown in Fig. 5-7) for the purpose of **at least two of** the processes for light metering (AE; page 3, paragraphs 0032+), focus detection (AF; page 3, paragraphs 0032+), white balance calculation (AWB; page 3, paragraphs 0032+) and picture image forming (page 3, paragraphs 0035+); and an output reader (i.e., noted the output reading circuits 104-107) for getting the outputs from the pixels for the purpose of at least two processes with the signals of the pixels kept without being reset between the first and second processes (i.e., as shown in Fig. 8 and 9, AE process is performed while AF being executed, thus, the signals of the pixels are kept without being reset between the AF process and AE process).

Regarding claim 46, Hata '801 discloses a digital camera (Fig. 1) comprising: an image sensor having a plurality of two-dimensionally arranged pixels (i.e., Fig. 4; col. 4, paragraphs 0039+) capable of selectively reading out signals from desired pixels (noted the selective reading of the desired pixels as shown in Fig. 5-7) for the purpose of **at least two** of the processes for light metering (AE; page 3, paragraphs 0032+), focus detection (AF; page 3, paragraphs 0032+), white balance calculating (i.e., page 3, paragraphs 0032+) and picture image forming (page 3, paragraphs 0035+); the image sensor having a plurality of amplifiers of variable gain for amplifying the signals of the pixels (i.e., noted the VC AMP 105 and Digital Gain control 1075

as shown in Figs. 1 and 2), respectively; and a gain controller for changing the gain between at least two processes (i.e., page 5, paragraphs 0052-0054).

Regarding claim 47, Hata '801 discloses a digital camera (Fig. 1) comprising: an image sensor having a plurality of two-dimensionally arranged pixels (i.e., Fig. 4; col. 4, paragraphs 0039+) capable of selectively reading out signals from desired pixels (noted the selective reading of the desired pixels as shown in Fig. 5-7) for the purpose of at least two of the processes for light metering (AE; page 3, paragraphs 0032+), focus detection (AF; page 3, paragraphs 0032+), white balance calculating (i.e., page 3, paragraphs 0032+) and picture image forming (page 3, paragraphs 0035+); an amplifier of variable gain for amplifying the output of the image sensor (i.e., noted the VC AMP 105 and Digital Gain control 1075 as shown in Figs. 1 and 2); a gain controller for changing the gain between at least the two processes (i.e., page 5, paragraphs 0052-0054).

8. Claims 4, 14, 15-16 and 48 are rejected under 35 U.S.C. 102(e) as being anticipated by Hieda et al. (U.S. 6,353,488).

Regarding claim 4, Hieda '488 discloses a digital camera (Fig. 1), comprising: an image sensor (i.e., the sensor 5) having a plurality of two-dimensionally arranged pixels on which electric charge is accumulated to generate signals (i.e., col. 4, lines 4+), respectively, capable of selectively reading out the signals from desired pixels (i.e., noted the selective reading of the desired pixels as shown in Figs. 6, 7, 16 and 17), and a processor (i.e., the processor 10 as shown in Fig. 1) for light metering (i.e., noted the AE preprocess circuit 124 as shown in Fig. 1) including a timer (i.e., noted the circuits 11, 12, 100 and 126) for determining a time period

from a start of the accumulation of charge to a time when a signal from the image sensor reaches a predetermined level (i.e., noted that the signals generators 11 and 100 of the camera provide a time period for reading the accumulation of charges form the frame A, B, C, E and D area of the image sensor as shown in Figs. 6, 7, 16, and 17), the light metering being on the basis of the time period (i.e., as shown in Fig. 14, the predetermined level of the signals read from the specific area, e.g., the areas A, B, C, D or E, is used for AE control based on the time period generated by the timing circuits 11 and 100 of the camera; see col. 4 lines 25+, col. 11, lines 10+).

Regarding claim 14, Hieda '488 discloses further comprising a focus detector for processing the signal of the image sensor to detect the focusing condition of the camera (i.e., see Figs. 2 and 13, col. 10, lines 40+).

Regarding claim 15, Hieda '488 discloses wherein the focus detector processes the outputs from the individuals of the pixels of the image sensor to form a digital image to be investigated in the focus direction (i.e., col. 7, lines 30+, col. 8, lines 45+, col. 10, lines 35+).

Regarding claim 16, Hieda '488 discloses wherein a range covering the pixels participating in the focus detection differs from that in the light metering (i.e., noted the different pixels areas B, C and D as shown in Figs. 6, 7 and 16 are used in AF and AE respectively).

Regarding claim 48, a digital camera (Fig. 1) comprising: an image sensor (i.e., the sensor 5 as shown in Fig. 1) having a plurality of two-dimensionally arranged pixels capable of selectively reading out signals from desired pixels (i.e., noted the selective reading of the desired pixels as shown in Figs. 6, 7, 16 and 17) for the purpose of **at least two** of the processes for light metering, focus detection, white balance calculation and picture image forming (i.e., noted the AF, AE and AWB processors as shown in Fig. 1), and wherein one process is started in response

to completion of outputting the signals for another process (i.e., as shown in Fig. 12, steps 612-614, one process is started in response to completion of outputting the signals for another process as claimed; see col. 10, lines 25+).

9. Claims 4-14, 17-18, 42, and 44-45 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al (U.S. 5,751,354).

Regarding claim 4, Suzuki 354 discloses a digital camera (Fig. 1), comprising: an image sensor (i.e., the image sensing device 4) having a plurality of two-dimensionally arranged pixels on which electric charge is accumulated to generate signals (i.e., col. 7, lines 30+), respectively, capable of selectively reading out the signals from desired pixels (i.e., Figs. 10 – 12B; col. 12, lines 25+), and

a processor (i.e., the processors 7 and 9 as shown in Fig. 1) for light metering (i.e., noted the Exposure adjustment as shown in Figs. 2-9) including a timer (i.e., noted the Timing Generator 5 and the CPU 10 functioned as a timer) for determining a time period from a start of the accumulation of charge to a time when a signal from the image sensor reaches a predetermined level (i.e., noted the predetermined level of the charges accumulated under the control of the circuits 5 and 10 as shown in Figs. 10-11 and 12A-12B), the light metering being on the basis of the time period(i.e., noted that the Exposure process shown in Figs. 2-9 is on the basis on the time period set by the timing circuits 5 and the CPU 10; see col. 12, lines 50+).

Regarding claim 5, Suzuki 354 discloses wherein the image sensor is further capable of adding signals of at least two pixels prior to getting the output from the image sensor (i.e., noted

the mixed signals as discussed in col. 11, lines 43+), and wherein the timer determines a time period from a start of the accumulation of charge to a time when the added signals reaches a predetermined level (i.e., see Figs. 10-11, col. 10, lines 40+ and col. 11, lines 25+).

Regarding claim 6, Suzuki 354 discloses wherein the processor for light metering (i.e., the coarse adjustment of exposure as shown in Figs. 2-9) further comprises an output reader for repeating to get the outputs from the pixels (i.e., the noted the circuits 6, 7, 9 and 10 as shown in Fig. 1 for repeating to get the outputs form the pixels of the sensor 4 for performing the exposure correcting steps as shown in Figs. 3-9) in accordance with a predetermined timetable (i.e., noted the use of exposure time table as discussed in col. 12, lines 60-65 for repeating to get the outputs of the sensors during the exposure correction steps as shown in Figs. 3-9), and a comparator for comparing the signal with the predetermined level (as shown in Fig. 3, the CPU 10 and processing circuits 7 and 9 compares the signal with the predetermined level stored; see col. 12, lines 40-68), and wherein the timer (i.e., the circuits 5, 6 and 10 as shown in Fig. 1) determines a time period (i.e., noted the time period as shown in Figs. 10 and 11) from a start of the accumulation of charge to a time when the comparator informs that the added signals reaches the predetermined level (i.e., as shown in Figs. 2, 10 and 11, the CPU 10 and the circuits 5 and 6 are capable of determining a time period from the start of the accumulation of charge at the step S3 with diaphragm open to a time when the comparator informs that the added signals reaches the predetermined level as shown in the Steps S4 with the diaphragm closed; see Figs. 2-9 and col. 14, lines 50+).

Regarding claim 7, Suzuki 354 discloses wherein the predetermined level corresponds to the optimum exposure level of the camera (i.e., col. 12, lines 60+ and col. 15, lines 45+).

Regarding claim 8, Suzuki 354 discloses wherein the output reader repeats to get the outputs form the pixels with the charge accumulation continued without being reset during the period in which the timer is determining the time (i.e., as shown in Fig. 10, the output reader circuit 7, 9 and 10 repeated to get the outputs 2, 3 and 4 form the vertical transfer of the pixels with the accumulation continued without being reset during the electronic shutter period in which the timer circuits 5, 6 and 10 is determining the shutter time respectively; see col. 12, lines 30+).

Regarding claim 9, Suzuki 354 discloses wherein an interval between the repetitions of getting the output by the output reader is changeable among pixels (i.e., noted that the range finding areas is changeable among pixels as shown in Figs. 10-11, and 12A-12B; see col. 11, lines 25+ and col. 12, lines 25+).

Regarding claim 10, Suzuki 354 discloses wherein the output reader gives priority to a pixel of the shorter interval in getting the output (i.e., noted form Fig. 10, the shorter interval is reading first, thus, it is cleared that the shorter interval is given priority to get the output).

Regarding claim 11, Suzuki 354 discloses wherein the signals from pixels of the same interval are added prior to getting the outputs from the pixels (i.e., see Fig. 11; col. 11, lines 25+).

Regarding claim 12, Suzuki 354 discloses wherein an interval between the repetition of getting the output by the output reader is variable for changing a range of light metering (i.e., see Figs. 10-11 and 12A-12B, col. 11, lines 25+ and col. 12, lines 25+).

Regarding claim 13, Suzuki 354 discloses comprising an aperture (i.e., Fig. 1, the element 2) through which the image sensor (4) receives light, wherein the aperture is variable for changing a range of light metering (i.e., col. 14, lines 60-68).

Regarding claim 14, Suzuki 354 discloses further comprising a focus detector for processing the signal of the image sensor to detect the focusing condition of the camera (col. 16, lines 25+).

Regarding claim 17, Suzuki 354 discloses wherein the image sensor (4) is reset after the time period relating to the light metering to accumulate charge for the same period as the time period to get signals for the focus detection (i.e., noted form Fig. 4 that the sensor 4 is reset at steps S217 after the same time period relating to the Exposure adjustment and the Focus adjustment were performed at the steps S213).

Regarding claim 18, Suzuki 354 discloses wherein the image sensor is reset (i.e., noted the resetting performed at the steps S217 of Fig. 4) after the focus detection (i.e., Fig. 4, the steps S213) to accumulate charge for the time period (i.e., noted the time period as shown in Figs. 10 and 11) calculated from light metering calculation (i.e., noted the Exposure calculation as shown in Figs. 4, the steps S213) to get signals for forming a picture image of an object of the camera (100).

Regarding claim 22, Suzuki 354 discloses comprising a white balance calculator (i.e., noted the white balance as shown in Figs. 4-8; see col. 16, lines 25+ and col. 19, lines 1-11) for processing the signal obtainable from the image sensor without resetting the image sensor after the focus detection (i.e., as shown in Fig. 4, step S218, the sensor is reset at step S221 after the

focus, exposure and white balance calculations are performed at step S218, thus, a white balance calculation is processed without resetting the image sensor after the focus detection).

Regarding claim 23, Suzuki 354 discloses wherein the image sensor is further capable of addition signals of at least two pixels prior to getting the outputs from the image sensor (i.e., noted the mixing of pixels as shown in Fig. 11; see col. 11, lines 40+), and wherein the white balance calculator processes the added signal (i.e., col. 12, lines 30+, col. 13, lines 25+, and col. 16, lines 25+).

Regarding claim 24, Suzuki 354 discloses comprising picture image processor for processing the signals (i.e., Fig. 1, the elements 7 and 9) from the image sensor (4) to form a picture image of an object of the camera (100) and a white balance calculator (col. 16, lines 25+ and col. 19, lines 1-12) for processing the signal obtainable from the image sensor (4) without resetting the charge accumulated on the image sensor for the picture image (i.e., as shown in Fig. 4, step S218, the sensor is reset at step S221 after the focus, exposure and white balance calculations are performed at step S218, thus, a white balance calculation is processed without resetting the image sensor after the focus detection).

Regarding claim 42, Suzuki 354 discloses a digital camera (Fig. 1) comprising: an image sensor (4) having a plurality of two-dimensionally arranged pixels (Figs. 12A-12B; col. 6, lines 30+) capable of selectively reading out signals from desired pixels (i.e., noted the selective reading as shown in Figs. 12A-12B; see col. 11, lines 60+ and col. 12, lines 30+);

a processor (Fig. 1, the elements' 7 and 9) for processing outputs got from the pixels of the image sensor (4) to form a picture image of an object of the camera (i.e., see Figs. 2-8, & 10-12B; col. 10, lines 55+) and a white balance calculator which function after the process of

processor (i.e., noted the steps S218, S222, S229, and S233 as shown in Figs. 4 and 5; see col. 16, lines 25+).

Regarding claim 44, Suzuki 354 discloses wherein the white balance calculator (Figs. 4-8; col. 16, lines 25+) processes signals read out from the pixels of the image sensor (4) without resetting the signals of the image sensor which have been read out for the process of the processor (i.e., as shown in Fig. 4, step S218, the sensor is reset at step S221 after the focus, exposure and white balance calculations are performed at step S218, thus, a white balance calculation is processed without resetting the image sensor after the focus detection).

Regarding claim 45, Suzuki 354 discloses a digital camera (Fig. 1) comprising: an image sensor (4) having a plurality of two-dimensionally arranged pixels (Figs. 12A-12B; col. 6, lines 30+) capable of selectively reading out signals from desired pixels (i.e., noted the selective reading as shown in Figs. 12A-12B; see col. 11, lines 60+ and col. 12, lines 30+) for the purpose of **at least two of** the processes for light metering, focus detection, white balance calculation and picture image forming (i.e., see col. 16, lines 24+); and

an output reader (i.e., Fig. 1, the elements 7, 9 and 10) for getting the outputs from the pixels for the purpose of at least two processes (i.e., noted the focus, exposure and white balance calculation as shown in Figs. 4, step S218) with the signals of the pixels kept without being reset between the first and second processes (i.e., as shown in Fig. 4, step S218, the sensor is reset at step S221 after the focus, exposure and white balance calculations are performed at step S218, thus, a white balance calculation is processed without resetting the image sensor after the focus detection).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 27 and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kijima '451 in view of Masaki (Translation of JP 11-344662).

Regarding claim 27, although Kijima '451 shows the focus detector including an optical system (40) for forming an image of an object on the image sensor (12) and an aperture (44) for passing light flux of the optical system (40) respectively, Kijima '451 does not explicitly show a pair of apertures and filters each arranged across the divided light passing through the pair of apertures as recited in the present claimed invention.

However, the above-mentioned claimed limitations are well known in the art as evidenced by Masaki '662. In particular, Masaki '662 teaches the use of a pair of apertures (i.e., see Fig. 2, the diaphragm 102 has a pair of holes 102a and 102b) and filter (i.e., noted the diaphragm 102 is arranged G filter 102a and M filter 102b as shown in Fig. 2; see paragraphs 0023+) each arranged across the divided light passing through the pair of apertures (102a/102b) as recited in the present claimed invention.

In view of the above, having the system of Kijima '451 and then given the well-established teaching of Masaki '662, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the system of Kijima '451 as taught by

Masaki '662, since Masaki '662 states in the abstract that such a modification would offer the AF equipment of the camera with high-speed focus actuation.

Regarding claim 28, the combination of Kijima '451 and Masaki '662 shows wherein the image sensor is color image sensor having read, green and blues pixels (i.e., see Fig. 2 of Kijima '451; and noted the R, G, B sensor 103 of Masaki '662) and wherein the filter arranged across the divided light fluxes are green and magenta filters (i.e., Fig. 2 of Masaki '662), respectively.

Regarding claim 29, the combination of Kijima '451 and Masaki '662 shows wherein the image sensor receives light through the pair of apertures on the light metering (i.e., it is noted that the aperture pairs as taught by Masaki '662 obviously can be used in the AE system of Kijima '451 because the exposure of the image data captured by the sensor 103 in the camera system of Masaki '662 has to be corrected while using a pair of apertures).

12. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kijima '451 in view of Masaki '662 as applied to claims discussed above, and further in view of Sunao et al. (Translation of JP 09-184973).

Regarding claim 30, the combination of Kijima '451 and Masaki '662 does not explicitly shows an another aperture through which the image sensor receives light, wherein the pair of apertures are replaced by the another aperture for changing a range of light metering as recited in present claimed invention.

However, the above-mentioned claimed limitations are well known in the art as evidenced by Sunao '973. In particular, Sunao '973 teaches the use of another aperture through

which the image sensor receives light (i.e., see the aperture other than 2a and 2b as shown in Fig. 3), wherein the pair of apertures (2a/2b) are replaced by the another aperture for changing a range of light metering as recited in present claimed invention (i.e., see paragraphs 0018+).

In view of the above, having the system of Kijima '451 and then given the well-established teaching of Sunao '973, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the system of Kijima '451 as taught by Sunao '973, since Sunao '973 states in the abstract that such a modification would offer the AF equipment of the camera with quick focusing without necessitating a sensor used only for focusing on a subject.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Ueno 016, Tanaka '889, Toyofuku '290, Juen '194, Chen '309 and Tsuji '833 show an imaging device having AF, AE, and AWB processors.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aung S. Moe whose telephone number is 703-306-3021. The examiner can normally be reached on Mon-Fri (9-5).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on 703-305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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July 23, 2004